openreach

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Suppliers' Information Note

For The Openreach Network

BT ISDN SERVICES
ISDN INTERNATIONAL INTERWORKING & FULL WITHDRAWAL NOTIFICATION
TECHNICAL INFORMATION FOR SUPPLIERS

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1. Introduction

The purpose of this Suppliers' Information Note (SIN) is to provide Customer Premises Equipment (CPE) suppliers and manufacturers with information specific to international interworking between BT's ISDN services and overseas ISDNs. This SIN should be read in conjunction with the SIN appropriate to the BT ISDN service of interest. For an overview of all current BT ISDN services and an index of ISDN related SINs, see SIN 312 [4].

Openreach will withdraw all international services provided by BT ISDN30 (DASS 2), BT ISDN 2, ISDN 30 (I.421), ISDN 2e and ISDN 30e services by end of January 2027 in line with the closure of the BT UK PSTN.

The international unrestricted 64 kbit/s bearer service was withdrawn by BT Wholesale in March 2017 in light of transition to IP working. This was announced in Issue 4.4 of this SIN. ISDN unrestricted 64 kbit/s bearer service calls to overseas destinations may therefore be rejected by the network as international connections transition to IP and a "clearmode" alternative is not available.

2. International Access Code

Following cessation of the use of 000 international access code for certain ISDN calls (this was part of the UK National Code and Number Change Programme - 'Big Number' programme), the standard international access code of 00 is applicable to all ISDN bearer services. (Note: prior to October 2000, the access code 000 was used for ISDN international calls requiring an unrestricted 64 kbit/s bearer. The use of 000 for ISDN international calls has now ceased). The bearer service provided will be based solely on the contents of the Bearer Capability information element in the SETUP message as specified in ETS 300 403-1 [8].

3. ISDN International Interworking - Treatment of 56 kbit/s data calls

Customer Premises Equipment (CPE) suppliers should be aware of the situation in some North American and Asia/Pacific Rim networks when international data calls are made from BT ISDN Services.

The national networks of North America and some Asia/Pacific Rim countries, although evolving to carry a user data rate of 64 kbit/s, still contain a large amount of switching and transmission equipment which restricts the maximum user data rate to 56 kbit/s. During the transition period which is likely to last a number of years there will be a mixture of 56 kbit/s and 64 kbit/s networks.

Some calls may only be possible at a maximum data rate of 56 kbit/s due to restrictions in their networks.

ISDN data calls to North America and Asia/Pacific Rim countries indicating an information data rate of 64 kbit/s will only be carried by those networks which support 64 kbit/s. Where a network is encountered that only supports 56 kbit/s, then calls indicating a 64 kbit/s data rate will be rejected.

This means that it is essential for calls to North American and Asia/Pacific Rim networks that originate in the UK, to indicate the correct information data rate. Details are given below of how it affects each service.

3.1. BT ISDN 30 (DASS 2)

If the appropriate 56 kbit/s rate adaption is not indicated to the UK network in the Service Indicator Code (SIC), (see BTNR 190 Section 4 Annex 1 [1]), the calls will be progressed at 64 kbit/s. As a consequence calls to some North American and Asia/Pacific Rim networks may be rejected.

3.2. BT ISDN 2, ISDN 30 (I.421), ISDN 2e and ISDN 30e

The BT ISDN services provide the user with the internationally agreed 64 kbit/s user data rate. Therefore, it will be necessary to rate adapt the 56 kbit/s user rate to the 64 kbit/s rate used by the UK network when making calls to users in those countries restricted to the 56 kbit/s user data rate. This rate adaption shall be performed by the customers equipment and to provide a usable connection, shall be in accordance with CCITT Recommendation V.110 (ECMA 102) [7].

To ensure that the call receives the appropriate treatment both at international boundaries and the distant terminal, the following coding for the Bearer Capability message element shall be used in the SETUP message for outgoing calls to North America and Asia/Pacific Rim countries. Incoming calls from these 56 kbit/s users within North America and Asia/Pacific Rim countries will also contain this Bearer Capability coding. The coding is in accordance with ETS 300 403-1 [8].

Octet	Binary	Meaning
1	00000100	Bearer Capability
2	00000100	No. of following octets
3	10001000	Unrestricted digital information
4	10010000	Circuit mode 64 kbit/s
5	00100001	CCITT standardised rate adaptation V.110
5a	10001111	Synchronous 56 kbit/s

Table 2 - Coding of Bearer Capability information element

4. ISDN International Interworking - General

The following general aspects apply:

- No digital calling and network features are available on international voice calls with the following exception. On calls originating on the BT network, where Calling Line Identity (CLI) is available and marked 'presentation allowed', the CLI will, in general, be forwarded.
- Digital calling and network features are available on international 64 kbit/s data calls as agreed with the relevant correspondent operator.
- ISDN Speech and ISDN 3.1 kHz Audio Bearer Services are supported on incoming international ISDN calls but will be supported subject to the capabilities provided by the Overseas ISDN and the international network connection.

5. Abbreviations

BC	Bearer Capability (information element in the SETUP message)
BTNR	BT Network Requirements
CLI	Calling Line Identity
CPE	Customer Premises Equipment
CCITT	The International Telegraph & Telephone Consultative Committee (now called ITU-T)
DASS 2	Digital Access Signalling System #2
ETSI	European Telecommunications Standards Institute
ISDN	Integrated Services Digital Network
SIC	Service Indicator Code
SIN	Suppliers' Information Note

6. References

Ref. No	Document number(Publication Date)	Title
1	BTNR 190 Section 4, Annex 1, Issue 2, June 1992	DASS 2, PBX Interface
2	SIN 171	BT ISDN 2, Service Description and Withdrawal Notification
3	SIN 232	BT ISDN 30, Service Description and Withdrawal Notification
4	SIN 312	BT ISDN Services Overview
5	SIN 261	BT ISDN 2e and ISDN 30e Service using *Full ETSI Call Control.*
6	SIN 222	BT ISDN 30 (DASS2) – Service Description.
7	CCITT Recommendation V.110 (ECMA 102)	Support by an ISDN of data terminal equipments with V-series type interfaces
8	ETS 300 403-1[1] (12/95)	ISDN: DSS1 protocol; Signalling network layer for circuit-mode basic call control {Application of ITU-T Recommendation Q.931 (1993)}

Supplier Information Notes (SINs) are from the WWW site at:
https://www.openreach.co.uk/orpg/home/helpandsupport/sins/sins.do

[1] ETS 300 403-1 is based on ITU-T Recommendation Q.931 (1993) and is an extended and updated version of ETS 300 102-1 (1990) which was based on CCITT Recommendation Q.931 (1988). Annex ZA of ETS 300 403-1 identifies the relevant differences between ETS 300 102-1 and ETS 300 403-1.

7. History

Issue 1	April 1994	
Issue 2	March 1999	
Issue 2.1	December 1999	
Issue 3	February 2001	
Issue 3.1	May 2002	
Issue 4	September 2003	
Issue 4.1	June 2008	
Issue 4.2	September 2015	
Issue 4.3	April 2017	Amendment to Section 4 to replace references to Digital Select Services to be replaced with digital calling and network features
Issue 4.4	July 2020	Withdraw notice added to Section 2 for ISDN 64 kbit/s unrestricted bearer service calls to overseas destinations. Changed from BT branding to Openreach branding
Issue 4.4	June 2020	Annual Review – no changes made – issue number therefore remains the same
Issue 4.4	June 2021	Annual Review – no changes made – issue number therefore remains the same
Issue 4.4	June 2022	Annual Review – no changes made – issue number therefore remains the same
Issue 4.4	July 2023	Annual Review – no changes made – issue number therefore remains the same
Issue 4.5	January 2025	Text added to Section 1 announcing the withdrawal of international ISDN services by end January 2027. Text section 2.1, covering the earlier withdrawal of 64 kbit/s unrestricted bearer service calls to overseas destinations, moved into Section 1. Section 2.1 deleted.

ANNEX A - DIFFERENCES COMPARED TO PREVIOUS ISSUE OF SIN 243

This document provides a brief description of the major changes between this issue (4.2) of Suppliers Information Note 243 and the previous issue (4.1). Please refer to the main body of the document for full descriptions of each topic; particularly as a number of editorial changes have also been made throughout this issue of the document.

DESCRIPTION	REF. SECTION
Modification of the description of transparency restrictions on incoming international 3.1 kHz audio calls.	4
Change SINet site references from http://www.sinet.bt.com to http://www.btplc.com/sinet/	6

Table A.1 - List of major changes from previous issue of SIN 243

- End of Annex A –